



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,991	04/11/2001	Hironori Kikkawa	Q63815	9940

7590

06/05/2002

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
WASHINGTON, DC 20037-3213

EXAMINER

DUONG, THOI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/829,991

Applicant(s)

KIKKAWA, HIRONORI

Examiner

Thoi V Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 15 line 14, the overcoat layer "12" should be --22—as shown in Fig. 9.

Appropriate correction is required.

Claim Objections

2. Claim 18 is objected to because of the following informalities: on line 3 of claim 18, "pixel electrodes" should be --common electrodes--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 10, 11, and 16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not clear where a film is located between said second substrate and said black matrix in claims 10 and 11 and a plurality of polarizing plates is positioned between said first substrate and said second substrate in claim 16.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 9-12, 15-17, and 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Shin et al. (USPN 6,271,903 B1).

As shown in Figs. 1 and 2, Shin discloses a method of fabricating an LCD device 45 having common electrode vertical stripes 53, a plurality of scanning lines 50, a gate insulating film 58, a plurality of signal lines 51, a plurality of pixel electrode stripes 54 formed parallel to said common electrode vertical stripes and a plurality of pixel areas 59 formed on a first substrate 41, comprising: patterning on a second substrate 40 a black matrix 71 composed of a CrO layer and a Cr layer (col. 7, lines 23-25); and disposing liquid crystal 42 between said first substrate and said second substrate, wherein said black matrix covers an area other than said pixel area and said common electrode electrically shields said pixel area from a voltage of said black matrix (col. 7,

Art Unit: 2871

lines 23-31). The method further comprises positioning polarizing plates 44 and 43 on said first substrate and said second substrate and forming orientation layers 67 and 73 between a surface of each of said first and second substrates and said liquid crystal, said forming process comprising a rubbing process with rubbing direction shown in Fig. 11A Prior Art. Fig. 5 illustrates a color filter 72 formed on said second substrate and an overcoat layer 80 formed on said color filter wherein said overcoat layer substantially eliminates impurity ion migration into said liquid crystal, flattens a surface of said second substrate and controls a thickness of said liquid crystal. The method further comprises forming said common electrode of chrome (light-shading metallic electrode) (col. 7, lines 12-17). Since the plurality of scanning lines 50 is formed on the same plane with the common electrode, the scanning lines are also formed of chrome. Finally, the method further comprises configuring horizontal and vertical stripes of said plurality of pixel electrodes and vertical stripes of said common electrode to generate an electrical field having a main component extending parallel to said first substrate and said second substrate and perpendicular to said pixel electrodes and said common electrode in said pixel areas (col. 8, lines 24-30).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2871

7. Claims 13, 14, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Kondo et al. (USPN 6,198,520 B1).

Shin discloses a method of fabricating a LCD device that is basically the same as that recited in claims 13 and 14 except for a process of fabricating color filters. Kondo discloses in Fig. 6 a method of fabricating color filters 5 using plurality of photolithographic steps which comprise dispersing RGB pigments in a photosensitive polymer 16 (col. 9, lines 6-30). Polymer beads are formed in spherical shapes having a diameter substantially equal to a gap between said first substrate and said second substrate (col. 13, lines 20-25). Finally, as well-known in the art, a step for bonding said first substrate to said second substrate is followed to keep those substrates in place. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the fabrication method of Shin with the teaching of Kondo by forming color filters using photolithography to improve a color purity for the display.

8. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Miyaraha et al. (USPN 6,297,867 B1).

Shin discloses a method of fabricating a LCD device that is basically the same as that recited in claims 18 except for forming the gate insulator film of silicon oxide. As shown in Fig. 3, Miyahara discloses a LCD device wherein a gate insulator film is formed of silicon oxide (col. 9, lines 26-27) on scanning line 23 and common electrode 31, an amorphous silicon layer 25 and a N+ type amorphous silicon layer 35 and pixel electrode 30 formed on the gate insulator film. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD

Art Unit: 2871

device of Shin with the teaching of Miyahara by forming the gate insulating film of silicon oxide to prevent impurities from diffusing to the active portion and to relax stress between the lower glass substrate and the active portion of the display.

9. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shin in view of Ohta et al. (USPN 6,064,460).

Shin discloses a method of fabricating a LCD device that is basically the same as that recited in claim 23 except that the first polarization plate is aligned normal to an orientation of the liquid crystal and the second polarization plate is aligned in the orientation of the liquid crystal. As shown in Fig. 7, Ohta discloses a LCD device wherein a first polarization plate POL1 and a second polarization plate POL2 are formed at first substrate SUB1 and second substrate SUB2 respectively. Also in Fig. 18, the polarization axis of the first polarization plate is parallel to the rubbing direction RDR and intersects the polarization axis of the second polarization plate at a right angle. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD device of Shin with the teaching of Ohta by forming first and second polarization plates at respective first and second substrates such that a polarization axis of said first polarization plate is aligned in an orientation of the liquid crystal and a polarization axis of said second polarization plate is aligned normal to said orientation of said liquid crystal so as to increase the transmission factor with an increase in the voltage applied to the pixels.

Art Unit: 2871

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication should be directed to Thoi V. Duong at telephone number (703) 308-3171.

Thoi Duong

05/31/2002



William L. Sikes
Supervisory Patent Examiner
Technology Center 2800